

AMENDMENTS TO THE CLAIMS:

The following claim listing will replace all previous listings of the claims:

1-37. (Cancelled)

38. (Currently Amended) A method for detecting the presence of micromolar amounts of ~~metal~~ ions of metals in an environmental sample, said method comprising obtaining an aquatic, terrestrial, gaseous or industrial environmental sample; contacting said sample putatively containing said ~~metal~~ ions of metals with a nucleic acid molecule intercalated with a fluorescent dye; and screening for dissociation of binding between said nucleic acid molecule and said dye, wherein said dissociation of binding is indicative of the presence of micromolar amounts of ~~said~~ ions of metals~~metal ions~~.

39-41. (Cancelled)

42. (Previously Presented) A method according to Claim 38, wherein the metal ions are heavy metal ions.

43. (Previously Presented) A method according to Claim 38, wherein said fluorescent dye is selected from the group consisting of acridine orange and ethidium bromide.

44. (Previously Presented) A method according to Claim 46, wherein said substrate comprises glass, polystyrene, polymethacrylate, cellulose, nylon, polyvinylchloride or polypropylene.

45. (Previously Presented) A method according to Claim 44 wherein said substrate is polystyrene or polymethacrylate.

46. (Previously Presented) A method according to Claim 38, wherein said nucleic acid molecule is immobilized to a substrate.

47. (Currently Amended) A method for detecting the presence of ~~metal ions~~ of metals at toxic levels in an environmental sample, said method comprising obtaining an aquatic, terrestrial, gaseous or industrial environmental sample; contacting said sample putatively containing said ions of ~~metal ions~~ metals with a nucleic acid molecule intercalated with a fluorescent dye; and screening for dissociation of binding between said nucleic acid molecule and said dye, wherein said dissociation of binding is indicative of the presence of ~~said metal ions~~ ions of metals at toxic levels.

48. (New) A method for determining toxicity of an environmental sample associated with the presence of ions of metals, said method comprising obtaining an aquatic, terrestrial, gaseous or industrial environmental sample; contacting said sample putatively containing ions of metals with a nucleic acid molecule intercalated with a fluorescent dye; and screening for dissociation of binding between said nucleic acid molecule and said dye, wherein said dissociation of binding is indicative of the presence of micromolar amounts of ions of metals thereby determining toxicity of said sample.